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No. 6

NEWS & VIEWS

ISL
Information Services Division

A Newsletter Dedicated To Information Technology In The State Of Montana

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Starting Over Using BPR

Radical New Approaches to Enhance Productivity and Competitiveness

(The following is an excerpt from the *State of Montana Emerging Information Technology White Papers*, September 1995.)

Business Process Reengineering (BPR) is the constant search for, and implementation of, radical new approaches to business practice that will enhance productivity and competitiveness.

The premise behind the rise of BPR as a business practice is that the structure, management, and performance of American businesses are based on principles that are decades old, and no longer operable in today's economy. The changes that are required of organizations are so pervasive and immediate that incremental change over time won't work. BPR isn't about fixing things, it's about

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starting over, from scratch. How do we want to organize work today, given the demands of today's markets and the power of today's technologies?

In practice, BPR involves a fundamental analysis of the organization and a redesign of

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Calendar of Events

December 1:

MOPUG meeting, 1:00-4:00,
Mitchell 13A & 13B.

December 6:

ITMG meeting, 8:30-12:00,
Metcalf 111.
SEC meeting, 9:30-11:30,
DPHHS Auditorium (METNET).

December 14:

ITAC Special Meeting, 9:00-11:30, Vista Building (Public Service Commission) Bollinger Room.

December 15:

Governor's Blue Ribbon Task Force meeting, 10:00-3:00,
Capitol 312-2.

December 25:

Christmas Day Holiday.

January 1:

New Year's Day Holiday.

January 3:

ITMG meeting, 8:30-10:30,
Metcalf 111.

January 5:

MOPUG meeting, 1:00-4:00,
Mitchell 13A & 13B.

January 9:

ITAC meeting, 8:30-11:30,
Metcalf 111.

January 15:

Martin Luther King, Jr.'s
Birthday Holiday.

January 16:

SEC meeting, 9:00-11:00,
DPHHS Auditorium (METNET).

January 19:

Governor's Blue Ribbon Task Force meeting, time and place to be announced.
GIS Seminar, 3:00-5:00,
Montana State Library
Conference Room 208, (see

organizational structure, job definitions, reward structures, business work flows, and control processes.

The reengineered company is process-oriented. This concept often gives managers the greatest difficulty because they are used to focusing on tasks, jobs, people, or structures. A process is a set of activities or logically related tasks that must be performed to accomplish a business objective. An example of a process is the delivery of ordered goods into the hands of the customer. That process is comprised of numerous tasks, such as receiving the order form and shipping the goods from the warehouse. These individual tasks are important, but they don't mean a thing if the overall process doesn't work, i.e. if the process doesn't deliver the goods.

Reengineering is not the same as automation, nor is it restructuring or downsizing. It is also not the same as quality improvement, total quality management (TQM), or other manifestations of the quality movement. The quality movement works within the framework of the company's existing processes and seeks to enhance them by continuous incremental improvement.

Technology Overview: The Changing Nature of Work, Organizations and the Marketplace Historical Perspective

Many of today's business process flows and organizational structures are reflective of the industrial era in which they originated. Work typically consisted of repetitive, linear flows. Hierarchical organizational structures were geared toward efficiency and control by being organized around separate, highly individualized, functional areas (accounting, purchasing, etc.).

In the early stages of a company's existence, the synchronization between the operational and organizational

components of the business was generally well balanced and the operation was an efficient and effective one. With business growth however, came the added complexities of more employees, expanded operations, changing environmental constraints, and the need to coordinate among various entities, both internal and external. Organizations were generally expanded by trying to "patch and mend" the existing structure. The result over the years has been the creation of complex, internal, administrative systems; while the operational flows have remained, of necessity, streamlined and efficient. This divergence between the operational and organizational flows has resulted in businesses finding themselves experiencing delays in handling workloads and constrained in their ability to adapt to a changing marketplace.

The employees role in the organization was fairly narrowly and precisely defined. The control paradigm implicit in hierarchical organizational structures is founded on the premise

GIS Seminar

Randy Matchett, Charles M Russell National Wildlife Refuge, Prairie dogs, Blackfooted Ferrets & GPS/GIS

GPS and GIS mapping technology were applied to management of prairie dogs, and reintroduction and monitoring of Blackfooted Ferrets, an endangered species. Field work took place in 1994 and 1995. Field application and practical results will be presented and discussed.

The seminar will be held on January 19 in the Montana State Library Conference Room 208 from 3:00-5:00. For more information, contact Kris Larson (444-5691).

that individuals are virtually incapable of being guided by qualitatively defined goals. Instead, they need to be behaviorally controlled in order to achieve objectives defined and perform the assigned task.

With the advent of computers, organizations have sought to use information technology (IT) for competitive advantage. They have generally done so by looking at the various functional areas of the business. These tasks were often analyzed independently, resulting in a piecemeal approach, which further resulted in a variety of independent software systems and application solutions. As these manual processes were automated, there was the impression of improvement because of increased processing speed, but that did nothing to address the problem of fragmented processes.

The characteristics of the marketplace during this era were a generally stable and predictable demand and the ability to compete based on generally standardized and undifferentiated products.

The New Economy

The realities of the economy today are very different from that described above.

Today's economy has been labeled by various names, including post-industrial, service, or an information economy. It is characterized by global markets, increasing competition, and rapidly changing customer requirements. To compete in that environment, organizations need to be more flexible, team-based, and dynamic than yesteryear's organizations.

In the industrial model, organization always lags behind strategy. This is based on the assumption that you have to know what it is you want to do before you can know how to do it. The weakness in this line of thinking is that no organization can ever be totally appropriate for carrying out its purpose or mission. The shorter the time lag between strategy and organization, the more efficient the business.

In today's economy, high information content and the skills/expertise of workers provide the principal

competitive advantages. Low cost labor, cheaper components, finding new ways to produce more work, or applying the latest technology to existing procedures aren't enough anymore. Neither are cosmetic changes or piecemeal solutions.

Work is no longer characterized by linear, repetitive tasks, but is more commonly done by a web of interaction by highly skilled workers. The industrial workforce is no longer the dominant working class, having been replaced by the knowledge worker.

The paradigm shift that companies must make today is to stop using mechanistic, industrial models to run today's businesses and instead take a more holistic approach that encompasses all the parts of the business and the interrelationships. Today's successful organization must be networked across functions and designed around business processes, rather than functional hierarchies.

The emphasis on IT has shifted from local, discrete islands of information to enterprise-wide planning for the technology infrastructure with a concentration on cross-functional integration and personalization of technology. Technology is a major enabler of BPR initiative but represents only one facet of the project and will not by itself bring about sustainable improvements.

The BPR Initiative

There are a variety of often contending approaches to BPR. While there are a number of structured methodologies that exist, some companies rely on a more intuitive approach. Some practitioners believe that over attention to current practices gets in the way of innovative thinking. They'd rather start with a clean slate and their own imagination and experience.

Some of the essential components of a BPR initiative are:

People.

Companies don't reengineer processes, people do. How companies select and organize the people who will do the reengineering is key to its success.

The leader has to be a senior executive who authorizes and motivates the overall effort. Reengineering is so revolutionary that championing from the top is a necessity.

During any

significant transitions there will be moments when, in the midst of the move, the old state has been abandoned and the new not yet achieved. Without strong leadership to urge the process on, inertia and delay can kill the change process before it has a chance to take root.

The reengineering team should be comprised of individuals from across the various parts of the organization. The skills of team members should be

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broad and should traverse functional units.

An educational and communications campaign aimed at all the people in the organization must run from the beginning to the end of the effort. Employees need to be convinced of the need for change, their commitment and confidence must be gained, and their enthusiasm has to be maintained. In many BPR efforts that have failed, the lack of communication and attention to the human component of the organization is often cited as the cause.

Identify Reengineering Opportunities.

This activity begins by identifying and mapping all of the processes within the business. The criteria for prioritizing those selected for reengineering include: dysfunction (Which processes are in the deepest trouble?); importance (Which processes have the highest potential impact on the business?); and feasibility (Which processes have the greatest chance for success?).

The next step is to diagnose the processes to be reengineered. One of the most frequently occurring errors at this stage is to analyze a process

in agonizing detail rather than trying to understand it. The best place to try and begin to understand a process is from the customer end. The goal is to understand the what and why, not the how, so that in redesign they can focus on what the new process will have to do.

Process Redesign.

This is both the most exciting and daunting task in the BPR effort. It demands imagination, inductive thinking, and the ability to cast aside preconceived notions.

Some recurring characteristics found

in reengineered processes include: several jobs are combined into one; workers make decisions; the steps in the process are performed in a natural order; processes have multiple versions; work is performed where it makes the most sense; checks and controls are reduced; reconciliation is minimized; a case manager provides a single point of contact; and hybrid centralized/decentralized operations are prevalent.

Monitoring the Newly Reconstructed Process.

Performance measurement must be continually assessed and controlled. Hard measures include process performance (cycle time, customer service, and quality), IT performance (downtime, system use, paper reduction), and productivity indices. Soft measures such as employee morale and customer goodwill should also be included.

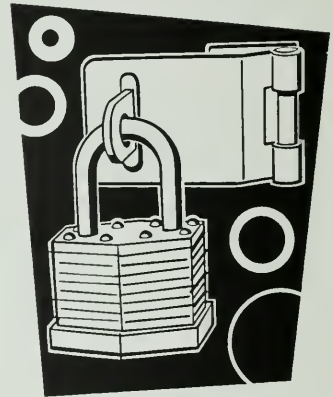
Project success in BPR initiatives is the exception, not the rule.

Some statistics show that only 30% of BPR efforts are successful in achieving the dramatic results they'd intended. The results of a poorly run reengineering process can be devastating to both the business

and its customers.

Some of the leading causes of failure include: trying to fix a process instead of changing it; failure to focus on business processes; ignoring everything except process redesign; neglecting employee's values and beliefs; being willing to settle for minor results; quitting too early; placing prior constraints on the scope of the effort; allowing existing corporate cultures and management to prevent reengineering from getting started; trying to make reengineering happen from the bottom up; assigning someone who doesn't know

reengineering to lead the project; skimping on resources assigned to the project; burying reengineering in the middle of the corporate agenda; undertaking too many projects at the same time; trying to make reengineering happen without making anyone unhappy, and dragging the effort out for too long a period of time.



Cross Platform Security Issues Recommendations Concerning Standardization Presented to ITMG

Security is generally defined as the freedom from danger or as the condition of safety. Information systems security, specifically, is the protection of data in a system against unauthorized disclosure, modification, or destruction and protection of the computer system itself against unauthorized use, modification, or denial of service.

We all know that in recent years the emphasis in information systems and computing has been moving from the 'glass house' mainframe environment to the PC/workstation - client/server - distributed processing environment,

and with that shift has come new challenges for information security management. The security solutions in this new environment may be different in scope; some will most likely be different in the way we accomplish them, but they will not be different with respect to the key elements of any information security strategy. Those elements are confidentiality, integrity, and availability of the enterprise information resources.

In the mainframe environment, security controls could be implemented centrally at the data processing facility. Physical measures restricted computing center access to computer operations personnel, and access control software restricted computing system access to authorized users. Typically these measures were managed by a few individuals who were delegated the 'responsibility for security'. In today's world it is becoming increasingly important that everyone participate in the security function. By statute (Section 2-15-114 MCA), state agencies must provide for the security of their data and information technology resources. This is further defined in Section 1-0250.10 of the MOM's manual which states;

'It is the policy of The Department of Administration that agencies are responsible for authorizing access to their information technology resources by designating certain persons as users and authorizing such persons to access those resources in the manner necessary for performing their duties'.

We must all be aware of the need for, and the importance of security, starting at our own desktop.

The individual logon ID (user ID) and password are the fundamental parts in any security structure. They are our personal possessions and should be treated as such. They are the basis for our entry into a system and for the authorization to access information

and to do our work. They also represent our accountability and provide the audit trail while we are logged on to a system.

Several years ago ISD initiated standards for the assignment of logon ID's (user numbers) in an effort to maintain some verifiable order to individuals classified as users. That effort will continue.

ISD, along with the Network Managers Group (NMG), has begun a process to identify other areas that may be good candidates for standardization. It is becoming increasingly important that we study these issues not only because of the changing landscape of information systems but also to position ourselves for future advancements in security administration.

The obvious first choice for standardization is the password. Some recommendations have been made to the Information Technology Managers Group (ITMG). Those recommendations include;

- Minimum password length of six characters
- 60 day maximum duration of password
- Password history minimum of four (you would have to cycle through four password changes before you could reuse a particular password)

Other suggestions that always enter into the discussion about passwords are the syntax (use at least one numeric or special character), the fact that a password should never be written down or otherwise displayed, and passwords should never be easily guessed words, common names, or the logon ID itself.

If any or all of these recommendations are adopted, care will be taken to ensure that the transition is well publicized and that users are not adversely affected.

For Mainframe/ACF2 security questions, call Mick Plovanic

(444-2571) and for Novell NetWare 4.X security issues call Ron Armstrong (444-2905). ■



Software Acquisition's Clarified

There's been some confusion in recent months regarding software purchases, particularly non-standard software purchases. What follows is an attempt to clarify the process:

The basic rule to keep in mind when acquiring software: if it's on the ISD Supported Software list and below \$5,000, it's approved—just send us a copy of the purchase order. Anything else needs prior ISD approval (including purchases from Central Stores). (*The ISD Supported Software list is located on the Value Added Server in the \NMG\POLICY subdirectory, is in Lotus 1-2-3 format, and is named SOFTWARE.WK*.*) That's about all there is to it. However, if you're still quite not sure what you need to do, read on for the full-blown explanation:

HB 99 revised Sections 2-17-501 and 2-17-502 of the MCA (Montana Code Annotated) by adding software review and approval to the Department of Administration's data processing responsibilities. In order to streamline the approval process (or in other

words, not require review and approval of every software purchase), ISD implemented HB 99 in the following manner:

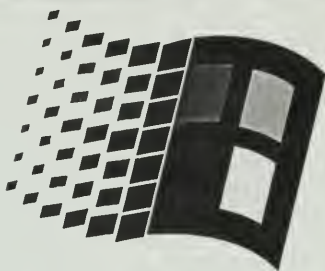
Major acquisitions totaling more than \$5,000, or acquisitions of non-supported software, will require prior approval by ISD. Non-supported software means any software not found on the ISD Supported Software list, no matter where it's purchased from (including software purchased from Central Stores). These will also require a completed Procurement Justification Form For Data Processing Equipment and Software.

Acquisitions of supported software, as found on the ISD Supported Software list, will not require prior approval by ISD. However, for planning and inventory purposes, agencies will be required to send a copy of the purchase order to ISD at the time of purchase. A copy is not needed for orders for supported software processed through Central Stores. The ISD Supported Software list is regularly updated and made available to the agencies in electronic format.

Purchases of software for which the state has a site license or a master license agreement will require routing through ISD. This includes, but is not limited to, all Attachmate and Oracle products, and all Novell products except NetWare.

Agencies planning the acquisition of non-supported data processing software will be required to provide justification which includes a comparison of functional and performance features to that of supported software. If agencies are considering data processing software that is not currently supported, ISD should be included in the planning process as early as possible.

If you have any questions concerning non-standard software purchases, please call Brett Boutin (444-0515) from Computing Policy & Development. ■



Windows 95 / Windows NT Test Group

Evaluates and Tests Desktop Operating Systems

The Desktop Operating System/Network Operating System subcommittee of the ITMG (Information Technology Managers Group) has a working group evaluating Windows 95 and Windows NT. It is made up of members from multiple agencies and is charged with determining the viability of using Windows 95 and/or Windows NT workstation as a desktop operating system within the statewide enterprise. This group has begun its work, with the majority of the members testing Windows 95 in a multitude of scenarios. Some testing has also been started with Windows NT Workstation. The goal of the group is to have evaluation results documented and in the hands of the ITMG by the February 1996 ITMG meeting.

Windows 95 and Windows NT Workstation are not yet accepted as State desktop operating system standards. Central Stores and all agencies have been asked by the ITMG not to allow purchase or installation of Windows 95 or Windows NT Workstation on State desktop computers. While it is generally agreed that Windows 95 is a capable platform for home use, there are questions to be answered yet about

how 95 or NT workstations will perform within and affect the State's computer enterprise. We will keep you informed of the progress and findings of this group in monthly *ISD News and Views* articles. If you want further information contact Denny Knapp (444-2072, ZIP!Mail, cx0115%zip02@mt.gov) of End User Systems Support. ■



ZIP!Office Coming Attractions: Internet Enhancements

Current Capabilities and Requirements...

If you've used ZIP!Mail or ZIP!Office to send e-mail to an Internet user you probably are familiar with the limitations of the current system and the addressing requirements. Currently our e-mail connection to the Internet does not support attachment of binary documents so we are limited to e-mail messages. Also, you need to include the following addressing information, on the first line of your ZIP! message, when sending e-mail to an Internet user:

MHSTO:MHS:anyone@anyhost.com

Furthermore, your personal Internet e-mail address consists of your ZIP! User ID and Address followed by @mt.gov. For example my Internet e-mail address is:

cx0181%zip02@mt.gov

Not very friendly or easy to remember is it?

New and Improved...

Changes in progress: ISD has been working with the Attachmate Corporation on several enhancements that will provide ZIP!Office users with a more straightforward, full function Internet e-mail capability. We are currently testing a ZIP!Office Internet client that simplifies Internet addressing and are in the process of configuring and installing a new SMTP e-mail gateway that supports binary document exchange.

Alias Addressing: Internet e-mail will be sent and received with an Internet e-mail alias that ISD defines and maintains for every state e-mail user. After the changes are complete, my Internet e-mail address will be `kwyynn@mt.gov` rather than `cx0181%zip02@mt.gov`. We plan to continue supporting the old address format (`cx0181%zip02@mt.gov`) to allow time for you to notify Internet users of your new e-mail address.

Internet Address Book: The new ZIP!Office Internet client will also allow you to select Internet e-mail addresses from a Personal Internet Address Book that you maintain. This will eliminate selecting the Internet User from the address book and inserting the `MHSTO:MHS:` in every message.

New ZIP!Office Client Sneak Preview...

After the new ZIP!Office client is installed you will be able to open your Personal Internet Address Book by selecting: **File, Open** from the main ZIP!Office menu, and then selecting **Internet Address Book**. You then are able to add, view or change the Internet e-mail addresses for the e-mail users you communicate with on the Internet.

When sending mail to an Internet user you simply follow the same steps as you always have, but after you click on the send mail icon a new button will be available that allows you to switch from the regular address book to your Personal Internet Address Book. By clicking on the **Switch Address Book Button** you can toggle between the two address books and then select the Internet e-mail recipient

Time lines...

The new ZIP!Office Internet capabilities are scheduled to be completed by December 26. We should be ready to start upgrading agency ZIP!Office installs after the first of the year. We will be contacting agency's ZIP! Administrators to develop an upgrade schedule in the coming weeks. If you have any questions concerning the ZIP!Office Internet enhancements please contact Kyle Wynn (444-2859) of End User Systems Support. ■

Mainframe CPU Rate Change

CPU second rates have been modified to appropriately reflect the increased speed of the IBM 9021-821 computer installed on November 11. The speed at which the 9021-821 computer performs transactions is considerably faster than the 3090-400J model that was replaced. This will decrease the amount of CPU seconds needed to perform any given task. In order to keep the amount of rate recovery equalized in the transition to the new processor, rates must be increased proportionately to the decrease in CPU seconds consumed. The end result should be no cost increases to your agency for the services performed.

After analyzing extensive benchmarking data, the following adjustments in rates have been determined. IDMS and CICS CPU rates will increase by a factor of 2.8, and Batch and TSO CPU rates will increase by a factor of 2.9. The new and old rates (per CPU second) are reflected below:

	OLD RATE	NEW RATE
IDMS	.3340	.9352
CICS	.3340	.9352
BATCH	.4293	1.2449
TSO	.5258	1.5248

If you have any questions regarding these rates, you may call Jeff Lustgraaf (444-3406) from the Financial Services Unit. ■

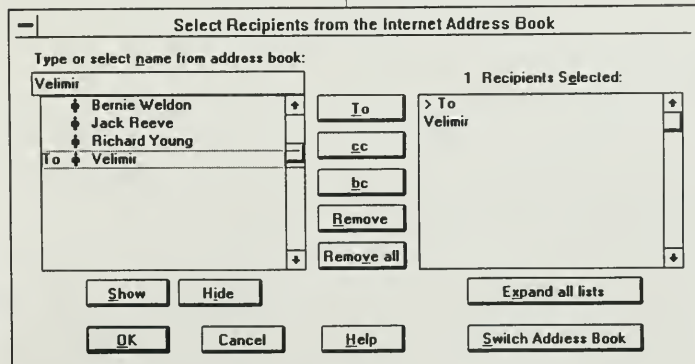


Figure 1: Personal Internet Address Book



Charles M. Russell and His Friends, oil on canvas, 1922, Mackay Collection
reproduced with permission from the Montana Historical Society

Charlie Russell Enters the Computer Age

One can only ponder what he might think about it, but Montana's beloved cowboy artist Charlie Russell is entering the computer age.

The Montana Historical Society has selected 30 of his full-color works for a new Russell Computer Screen Saver.

"We have had many requests from computer buffs for historical programs that would carry Montana into the computer age," Society Museum Store Manager Richard Boyd said. "Charlie is famous for his illustrated Christmas cards, so we thought this was a good time of the year to release our first venture into this field."

The screen saver collection includes Russell's masterpiece, "When the Land Belonged to God," and other major works including "Bronc to Breakfast", "Charles M. Russell and His Friends", "Men of the Open Range", and "York", which are displayed in rotation when the screen is not in use, from the Society's Russell collection.

The screen saver, which prevents

monitor burn-in imaging, is for IBM personal computers and all compatible systems with a 386 or higher processor running Windows 3.1 or better and sells for \$35, Boyd said.

The Society also has Russell VCR videotapes, audio tapes and other electronic collections of Montana and western history.

Persons interested in ordering the screen saver or other items from the Society can call toll-free (800/243-9900). For more information, please contact Tom Cook (444-1645) at the Montana Historical Society. ■

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What's new from the world of Meridian Mail? Voice Forms!

A voice form is the equivalent of a paper form. It is "filled out" by callers who dial a specific number which connects them to the voice form. The form is made up of a series of questions that are played over the telephone to the caller. The caller listens to each question and responds by giving a verbal answer. The caller's answers are recorded and stored in the Meridian Mail system as a response.

Voice forms are intended to help fulfill an agency's information gathering needs. Voice forms can replace paper forms as well as certain information gathering tasks that currently are carried out over the phone.

Voice forms can enhance an agency's ability to reach customers, clients and employees, by making services available 24 hours a day, from any location.

A voice form can be a stand-alone application that a caller dials directly, or it can be integrated with other Meridian Mail features, such as voice menus.

For more information on voice forms or other Meridian Mail features contact Rita O'Neil (444-6846) or Clara Baer (444-2455) from Voice Operations. ☐



Update to the 4381—SYSB

The Department of Justice's Criminal Information System executes on the IBM 4381-T93E at the National Guard Armory. At the end of October, the operating system was upgraded to MVS/ESA 4.3. Previously, the operating system on the 4381 was MVS/XA. Several other software packages were upgraded at the same time. These include: ACF2, ASSEMBLER H, DMS/OS, ISPF, JES2, SDSF, TSO-E, VTAM, and OMEGAMON. This install puts the 4381's software in sync with the 9021-821's software at the Mitchell Building site. ☐

"The new IBM mainframe model 9021-821 was successfully installed on November 10 in under 24 hours. ...a remarkable 15 hours and 15 minutes. What makes this time amazing is that: ① due to the space restrictions of the computer room, the 400J had to be totally removed before the assembly of the 821 could begin and ② plumbing and electrical wiring adjustments were also done for the new processor."

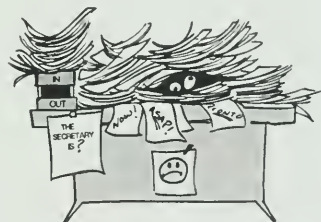


SUCCESS!!! New Mainframe Installed

The new IBM mainframe model 9021-821 was successfully installed on November 10 in under 24 hours. In fact, all job queues were held at 10:45 pm on Thursday, November 9, dual backups of all DASD were taken and the 3090-400J was turned over to El Camino (the installation company) to be dismantled at 4:15 am on Friday. Our first IPL was at 7:30 pm on Friday, November 10—a remarkable 15 hours and 15 minutes later. What makes this time amazing is that: ① due to the space restrictions of the computer room, the 400J had to be totally removed before the assembly of the 821 could begin and ② plumbing and electrical wiring adjustments were also done for the new processor. After an initial test period, the IDMS's and CICS's were brought up at 9:45 pm.

As mentioned in earlier articles, this processor is approximately 38% faster than the 3090-400J. The 3090-400J had four central processing units, running at 21 MIPS each. The 9021-821 has two central processing units, running at 59 MIPS each. Each of the two central processing units of the 821 are 281% faster than any one of the four CP's of the 400J. This is why your jobs are using less CPU time. Because of this increase speed, if you have specified a TIME parameter on either your JOB or EXEC card, please review what was specified. You might want to reduce the time. ISD's billing system's CPU rate will be adjusted accordingly to the new processor's

speed. (See related article "Mainframe CPU Rate Change" on page 7 of this issue.) During the month of November, the JOB COST figure in the JCL job termination statistics varied as ISD modified this CPU rate. Other changes that you will see in the job termination box in your JCL are the CPU MODEL is set to 9021 and the SYSTEM ID is AES3. The default region size has been increased to 2,048 K (2 MB). Testing has shown that CPU bound jobs will see the best performance boost with this new processor. We are predicting the average CPU utilization for the 821 for the month of November to be 66.4% during prime shift. Look for an article in the January *ISD News & Views* for the actual utilization statistics. ☐



Report Distribution System Can it help you?

As you may recall, the October issue of *ISD News & Views* contained an article about ISD's automated report distribution system—INFOPAC-RDS (RDS). That article gave a brief description of the system and some of the advantages it had to offer. That article also stated that we had some bugs to work out and issues to be resolved before we could open it up to the user community.

Since the time that article was written, we have installed new releases of both the mainframe and Windows software.

(Please note that although RDS offers a WINDOWS module, it is not required to use the system. A 3270 interface is also available.) We were thrilled to find that these new releases eliminated all the troublesome problems that we were experiencing with this system. In addition, we have also resolved some internal issues concerning the manner in which we plan to implement this system. As a result, we are now ready to begin the production implementation of this system.

This system provides great flexibility in automating the report distribution process. It has the potential to change the traditional manner in which users currently receive their report data. You may want to ask yourself some questions about your current methods of report distribution and viewing. Is it currently time consuming to distribute your reports? Do you have reports which you would prefer to access on line if adequate search methods were provided? Do you have security concerns about your report data? Would you like to decrease or eliminate the Computer Output Microfiche (COM) you currently receive, (provided, of course, that a more convenient method of report viewing could be substituted)? Have you had problems with your report output getting lost, whether it be an entire report or a single page, and had to rerun the job to reproduce that output? Do you receive mainframe reports which contain data which you would like to use in your PC applications? These, among others, are the types of problems which can be addressed by RDS.

We encourage you to examine how you distribute and view your reports and how the process may be easier. The RDS system may be able to help you. If you have reports which you would like to have implemented in RDS, if you would like a short RDS demonstration, or if you simply have questions about RDS, please contact Dave Smith (444-2857) or Jan Lewis (444-2901) from Security, Methods & Media Management. ■

ISD Mainframe Utilization

Statistics Support Decision to Install New Mainframe

The IBM 3090-400J processor that had been the main-stay of state government data processing for the past few years simply 'ran out of gas'. The accompanying chart shows, that after a growth spurt at the beginning of calendar year 1995, processing for the first six months flowed along averaging in the high 70's to mid 80's. More often than not the average busy was 80% plus. Then the new fiscal year began and in July the mainframe utilization began to grow again. Except for the second half of August and on holidays the percentage of CPU busy has averaged mid 80's and up, reaching the mid 90's in late October and early November. Remember, these numbers are average CPU busy from 8:00 am to 5:00 pm—this is all nine hours including the noon hour. To be able to average these very high utilizations the processor had to run at 100% much of the time.

Our high priority online customers using CICS and IDMS applications continued to receive good service and response times for database queries and updates. Day time batch

customers, however, began to notice longer waits in the job queue and longer job elapsed execution times due to there being fewer processor cycles available after the online applications had received what they needed.

To place a couple of numbers on the growth that has happened to the ISD mainframe during calendar year 1995, the average CPU busy for the first two weeks of 1995 (nine days due to the New Years holiday) and the average CPU busy for the last two weeks that the 3090 was installed (also nine days due to the Veterans Day holiday) were used. The first two weeks averaged 73.9% busy and the last two weeks averaged 91.8% busy. That represents 24% growth during the 11½ month period.

It was time for a change; the State needed more processor power. To that end an IBM ES/9000 model 821 was installed on November 10. Although it is too soon to predict the long term trend for the new processor, its first full week of operation netted a 70.3% busy average.

For more information on mainframe utilization, contact Craig Smith (444-3458) from Operating System Support. ■

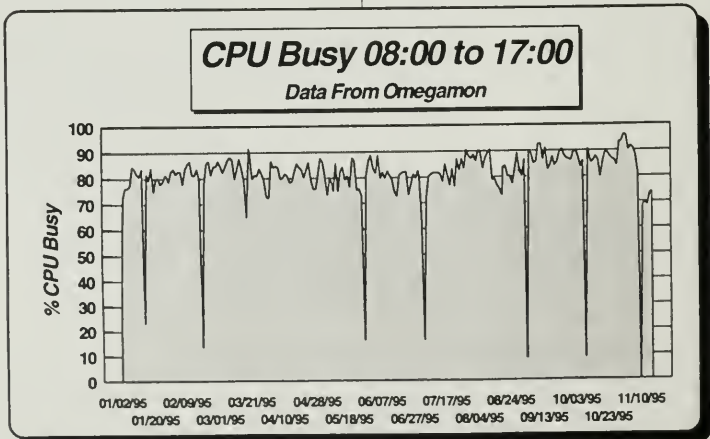


Chart 1: Percent of Mainframe CPU Busy



Special Meetings Scheduled... and Other ITAC Happenings

Two special meetings and several requests for feedback were part of the November 14, 1995 Information Technology Advisory Council (ITAC) meeting. A GIS (Geographic Information System) survey, a LAN (Local Area Network) Services RFI (Request for Information), and an Information Technology (IT) survey are all currently in progress, according to the ITAC updates received at the last meeting.

Tony Herbert will be scheduling a special meeting regarding the Real Decisions study in December. In this meeting Real Decisions will present their findings on the privatization study. Attendees will have opportunity to ask questions after the presentation. The meeting is tentatively scheduled for December 14, 1995.

Jeff Brandt and Brett Boutin have completed the "LAN Services" draft RFI regarding LAN Privatization. Brandt presented the draft to members and asked them to comment in writing by December 4 for incorporation into the final RFI.

Lois Menzies reported that by a consensus the 1996 strategic planning process will have a narrow focus rather than a broad-based one. ITAC members committed to attending a special full-day meeting in February to define the focus of the strategic plan.

Members will also review the EPP (Executive Planning Process) items for fiscal year 1998-1999 as contained in the strategic plan during that meeting. The meeting is tentatively scheduled for February 13, 1996.

The SummitNet Executive Council has nearly completed an Acceptable Use Policy which was presented by Linda Belflower. The policy defines several terms including SummitNet, SummitNet Acceptable Use, Public Access, and Remote Dial-In. Belflower hopes to have the Policy finalized and signed soon.

Coordination Task Force chairperson Mary Bryson distributed to ITAC members a survey for review and comment. The survey consists of four parts and assesses the support resources associated with providing IT in state government. ITAC members were asked to distribute copies of the survey to all employees who provide IT services to include their ideas in the study.

The GIS Task Force survey responses were due to Dan Sidor on November 17. Sidor is now compiling results and will have a report of responses soon. The report will itemize the issues and concerns received in that survey.

Several projects and surveys are currently in progress, with more work still ahead. ITAC members will be meeting every month until March of 1996 primarily due to budget preparation for the next legislative session. If you are interested in attending any of these meetings, contact Amanda Christen (444-2700) for dates, times, and places of the meetings.

Complete minutes may be found on the state BBS (Agency / Administration / Information Services / Files / Advisory Groups), on the Value Added Server (under ITACINFO), or by calling Amanda Christen (444-2700) from ISD. ■



ITMG Forms New Internet Subcommittee

The Information Technology Managers Group (ITMG) met on November 1, 1995 and continued their discussions related to information technology in the State of Montana. Several subcommittees gave reports, and a new group was formed.

Enterprise Software Subcommittee

Steve Colberg, Governor's Office, is the new chair of this subcommittee. Thanks to Wayne Schaff, Labor and Industry, for his leadership in the past year!

The subcommittee is working on end-user databases. The results of an agency survey were discussed. The survey provided information on legacy databases used by agencies, current and future hardware plans, and database needs of end-users and programmers. There was some discussion of the various levels of database usage in the state, and how ISD should provide support.

Operating Systems Subcommittee

Chair Hank Trenk of the Legislative Branch reported that the group is working on directory services as related to electronic mail and Novell NDS services. They are continuing their research into how the state can manage the 'login' process.

Mid-Tier Computing

This committee needs to gear up again

to ensure that the state has purchasing vehicles for the state's mid-tier standards. Mike Randall, Department of Transportation, volunteered to chair the group's efforts beginning in January 1996.

New Committee Formed

After a report by Sharon Gorie of ISD, the group decided that Internet directions need to be coordinated through the newly established Internet Services Providers Group (ISPG) forum.

The group will be looking at product standards for Internet Providers communications, homepage design standards, education and training, policy issues and more.

Complete minutes may be found on the state BBS (Agency / Administration / Information Services / Files / Advisory Groups), on the Value Added Server (under ITMGINFO), or by calling Amanda Christen (444-2700) from ISD. ■



Convert Acronyms PDQ

MDT can use WP61 on a PC to get an RFP done ASAP.

Acronyms are a handy shortcut when speaking and they also save on typing time. However, the preceding sentence may seem quite cryptic to anyone who is not familiar with those acronyms. When a document needs to be translated from asocial acronyms to

full phrases, WordPerfect version 6.1 can perform the task.

The Writing Tool that can be used within WordPerfect to translate acronyms is called ABBREVIATIONS. After typing a lengthy phrase such as "Montana Department of Transportation" stop and highlight it. From the Menu Bar choose **Insert** and from the pull down menu select **Abbreviations**. The Abbreviations window will appear.

To create a new abbreviation click on the **Create** button and type the abbreviation representing the full phrase in the box labeled **Abbreviation Name**. In this example MDT will be used for the name. Choose **OK** or hit **Enter**, then choose **Close**. From that point on within that document instead of typing the Montana Department of Transportation, MDT can be typed in it's place. To convert MDT to the full phrase, select the abbreviation within the document and then depress **Ctrl + A**.

If it is awkward to do the conversion while in mid document, a macro can be played to convert all abbreviations after the document is fully typed. To play the macro select **Tools, Macro, Play** (Play will be selected), then highlight the macro named **expndall.wcm**, then select **Play** again.

Abbreviations are not intuitive as to what font is being used in the current document. If abbreviation XYZ is created in document 1 with font A, using the standard

template (this is most likely the default) and document 2 is typed with font B, again using the standard template, when the XYZ abbreviation is converted within document 2, font A will be used. The abbreviation must be created or already be existing with the font which is compatible to the current document.

Abbreviations are case sensitive so if there is a desire to use two or three fonts for the same full phrase, the three fonts could be defined as

MDT	Montana Department of Transportation
mdt	Montana Department of Transportation
MdT	MONTANA DEPARTMENT OF TRANSPORTATION

If a template is new or an existing template customized, abbreviations can also be created for it. All abbreviations created for the standard template will appear in the Abbreviations window for any

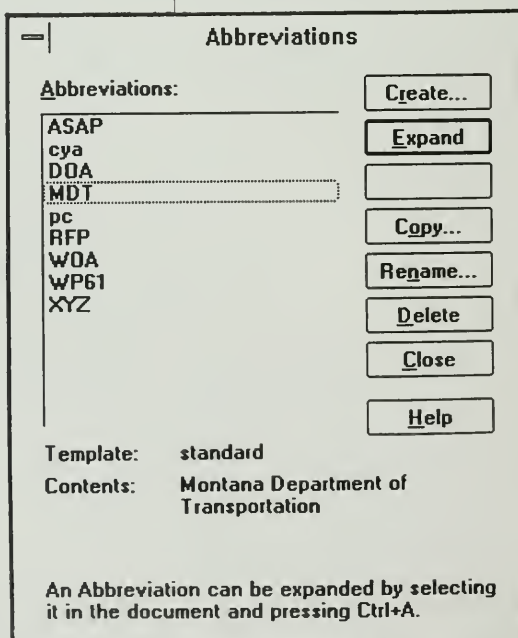


Figure 2: Abbreviations Window in WordPerfect 6.1

template. Abbreviations created for any new or customized template will appear only in the Abbreviations window for the non-standard templates.

Questions about this procedure or any other WordPerfect procedure may be directed to Candace Rutledge (444-2858) of End User Systems Support.



ZIP!Tips Scheduling Series Meetings

Recently, I added a "Series" appointment on my calendar to attend a weekly meeting that my supervisor requested of me. One particular week, notice was given to all attendees that the meeting had to be changed to a different site due to a meeting room conflict. No problem—I just opened my ZIP!Office calendar, double clicked on the appointment, changed the meeting room and clicked on "OK". It wasn't until the next week when I showed up at the wrong room that I noticed the meeting room was permanently changed for each appointment I had added on my calendar. ZIP!Office knew it was a "Series" appointment and changed all of them. There must be a way to change the information!!!

There is! Instead of creating a "Series" appointment on your calendar, schedule a "Series Meeting". To do so, click on the Meeting icon.

Fill in the appropriate information—Meeting date, Time,

Location, Subject and Purpose of the meeting. Click on Names, select yourself and choose **OK**. Click on the Series button. Select either Daily, Weekly, Monthly or Twice a month. (In selecting "Weekly", you are able to choose which day of the week to schedule the appointment.) Select **OK** and the message of your meeting notice is sent.

Open your in-tray and "post" the meetings to your calendar by clicking on the **Add meeting to a calendar** icon.

Now you are able to change a single appointment without affecting all the others in the Series.

If you have any questions on Series appointments/meetings, or any other ZIP!Office feature, please contact Sue Skuletich (444-1392) from End User Systems Support.



Which Side Is Up?—How To Handle Your CDs

As CD ROM drives are becoming essential parts of PCs, End User Systems Support is getting more and more calls about CDs that are damaged or can't be read by the computer. Proper handling of CD disks will help avoid the majority of these problems. The easiest way to avoid CD disk problems is to **NEVER** touch either side of the disk, handling it by the edges only. **NEVER** lay an uncovered CD disk down on any hard surface—**ALWAYS** store CD disks in their jewel case, a caddy, or even an old tyvek sleeve from 5.25 inch floppy (remember those?).

*"The easiest way to avoid CD disk problems is to **NEVER** touch either side of the disk, handling it by the edges only. **NEVER** lay an uncovered CD disk down on any hard surface—**ALWAYS** store CD disks in their jewel case, a caddy, or even an old tyvek sleeve from 5.25 inch floppy (remember those?)."*

When people choose to ignore the above advice and feel the need to lay an uncovered CD disk down on a hard surface, there is disagreement about whether to place the shiny side up or the label side up. According to CD manufacturers, there is no correct answer. A CD starts out as a 1.2 mm thick disk of clear polycarbonate plastic, and the data is recorded as a series of pits on the top surface of the disk. The top is then covered with a thin shiny coat of aluminum that is then covered with a thin coat of lacquer. The label is printed with ink on top of the lacquer. The laser in the CD player shines through the clear bottom layer to read the data recorded near the top of the disk.

Those who say to lay a CD shiny side down argue that minor scratches and smudges on the bottom side won't effect reading, as the laser is actually focused on the far side of the disk. Cleaning the shiny side will often "restore lost data". A scratch on the label side that penetrates the ink, lacquer, and aluminum will damage the data pits unrecoverably.

The "other side" of the argument is that the shiny polycarbonate side is more prone to scratches and placing a CD label side down would mean that the shiny side is less likely to pick up dirt and dust, which can be transferred to the CD laser or lens.

So it turns out that the correct way to lay your CD disk down is to **ALWAYS** have it in a protective cover of some sort before laying it down. Questions? Contact Denny Knapp (444-2072, ZIP!, cx0115%zip02@mt.gov) of End User Systems Support.



Term Contract Status

ComputerLand of Missoula

Please call Jim Lang (406/329-7625) with any questions.

State Term Contract 336V information is now on the World Wide Web

Now the most up-to-date price and product specifications for State Term Contract 336V is only a mouse click away! Point your browser to "http://www.cland-mt.com/gov/" for up to the minute information. But remember, to access the price list, you'll need a password. Contact Jim Lang (406/329-7625) for yours.

Hewlett-Packard LaserJet 5L-FS

The LaserJet 5L-FS fits easily in your budget and on your desktop. The HP LaserJet 5L-FS printer comes with HP FontSmart software for easy font management. Impressive 600 dpi laser printing doesn't fade or smear, and the ability to add memory up to 9 MB means this is a printer you won't soon outgrow.

Hewlett-Packard LaserJet 5Si/5Si MX

The new HP LaserJet 5Si printer is a high-volume, 24-ppm workhorse designed to handle the print needs of

large networks and departments. It's an improvement in every way over its award-winning predecessor—the HP LaserJet 4Si printer—faster, more robust, more intelligent and *less expensive*. The printer is also versatile. It offers paper-handling and network options that let you build exactly the printer you need. The HP LaserJet 5Si printer also comes with HP JetAdmin printer management software and other enhancements that make printing easier.

HP CopyJet and HP CopyJet M Color Printer-Copiers

Hewlett-Packard has integrated high-quality color inkjet technology with precision digital color imaging to produce the exciting new HP CopyJet color printer-copier. Four cartridges contain color inks that are specially formulated to produce vivid results whether you are printing on plain paper, inkjet paper, glossy paper or transparency film. And the CopyJet is also a color copier—it offers a full size legal flatbed scanning surface with a hinged/detachable cover for copying oversized and three dimensional materials. Adjustable color controls make every copy look its best. You can also enlarge or reduce from 50%–400%.

ComputerLand of Helena

Please call Mike Price (443-3200) with any questions regarding the following products:

IBM ThinkPad 365C/CS/CD/CSD

IBM introduces the new ThinkPad 365 notebook family which features:

- DX4 75/25 MHz processor with cache and math coprocessor
- Large memory capacity - 8 MB standard, upgradeable to 24 MB maximum
- High-capacity upgradeable Hard Disk Drives: 340 MB or 540 MB standard
- Integrated 5.25 inch CD ROM drive (365CD/CSD)
- NiMH battery pack
- Local bus video with acceleration
- Built-in speaker

- One IR transceiver
- TrackPoint III pointing device
- Full complement of ports for peripheral connections
- Non-removable 1.44 MB floppy diskette drive (FDD)
- Type III PCMCIA slot: accommodates two Type I, two Type II, or one Type III PCMCIA card
- MIDI/joystick port (365CD/CSD)
- Audio (365CD/CSD)
- Choice of display (10.4 inch measured diagonally):
 - Active Black Matrix TFT LCD (640 x 480 resolution VGA) with 256 K color support (365C/CD)
 - DSTN LCD with VGA resolution (365CS/CSD) with 256 color support
- Optional ThinkPad 365 Port Replicator and Charger

IBM PC 300 with Pentium Pro Processor (P6)

Features:

- Pentium Pro processor operates at 150 MHZ internally and 60 MHZ externally
- 256 K of L2 Cache is integrated into the processor (a multi-chip module) and operates at processor speed
- PCI/ISA technology
- Enhanced IDE Busmaster or Fast-20 SCSI hard disk controllers
- Matrox MGA Millennium 64-bit PCI Graphics Accelerator with 4 MB of WRAM
- 6X CD ROM drives standard
- Mini-tower design with six slots and six bays
- Three-year limited warranty

HelpWare

HelpWare is a comprehensive set of offerings designed to provide you with a full range of service and support options to help make your computing experience more productive and enjoyable. For detailed information call the IBM Help Center (800/772-2227).

Dell

Dell Dimension XPS Pro150

Dell Computer Corporation announces that it will immediately begin taking orders for systems based on the Intel Pentium Pro processor. The XPS Pro150 is based on the 150 MHZ Intel Pentium Pro processor and will be offered with a choice of either the Windows 95 or Windows NT Workstation operating system. The Dell Dimension XPS Pro150 configured with Windows NT Workstations is targeted for customers using advanced, 32-bit applications, who immediately require the extra performance offered by this first Pentium Pro processor. Prices of the XPS Pro150 start at less than \$4,000 for a system fully configured with monitor.

The Dell Dimension XPS Pro150 will feature error-correcting memory technology designed to enable the system to detect and correct single-bit memory errors. Dell expects to begin shipping XPS Pro150 systems with this feature in January.

Dell has designed a unique support offering that will come standard with all XPS Pro150 systems ordered with Windows NT Workstation. The company has assembled a team of Windows NT support technicians who will staff dedicated, toll-free software and operating systems support lines.

The Dell Dimension XPS Pro150 is available in a range of specialized configurations priced from \$3,999. For example, systems configured with a Dell 17LS monitor, 16 MB RAM, 1 GB HD, #9 Motion video, CD ROM, 3.5" diskette drive, Windows 95, keyboard, and a mouse start at \$3,999.

Dell also announces it will offer Dell Dimension XPS systems based on 200 MHZ Pentium Pro processors when the new chips become available.

PowerEdge XL

Dell Computer Corporation announces the Dell PowerEdge XL, the

company's most powerful server product, which uses as many as four Pentium processors and offers advanced server management features. This announcement complements Dell's existing PowerEdge line which includes the PowerEdge EL, for entry-level server customers, and the PowerEdge SP and XE, aimed at the mid-range of the PC LAN server market.

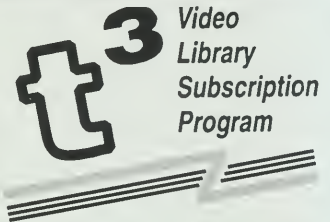
The new PowerEdge XL comes with a service not previously available on any Dell server—on-site setup, testing and validation at the customer's location.

The PowerEdge XL server is designed for customers running demanding database or groupware programs. Offered with one or more 133 MHZ Intel Pentium processors, the PowerEdge XL is a four processor-capable symmetrical multiprocessing server with leading-edge technologies including PCI (Peripheral Component Interconnect) local bus technology, up to 768 MB of error checking and correcting (ECC) memory, high-performance disk subsystems, hot-spare and hot-pluggable disk drive capabilities, and server management hardware and software. The Power Edge XL server supports the industry's leading network operating systems, including Novell NetWare 4.1 SMP and Microsoft Windows NT Server 3.51.

Latitude XL

During the month of December, look at Dell's exceptional pricing on Latitude XL active matrix systems. Dell is also cleaning house on existing 486/66 and 100 MHZ Optiplex desktops.

Additional pricing and technical specifications are available by contacting Scott Mangum (800/274-7799 ext. 66226, or scott_mangum@ccmail.us.dell.com).



ISD Purchases TCT Technical Training Videos

ISD has purchased the new *TCT Video Library Subscription Program* from TCT TECHNICAL TRAINING, INC. This is TCT's complete and comprehensive collection of ALL their technical video courses. These video courses are used in over 70 percent of all Fortune 1000 companies. This new library program provides the State with all TCT's LAN, WAN and Telecommunications video courses for one year. The State is allowed to use the courseware on an unlimited site basis. There is absolutely no limit on how many people can be trained with the courses. So, the more people who are trained, the more we are maximizing our subscription value.

TCT TECHNICAL TRAINING INC. has been developing video courseware in the field of LAN, WAN and Telecommunications for over 12 years. Today, they are considered by many as the industry leader with one of the largest up-to-date collections of courses.

Each *Course Series* is comprised of three to seven video tapes and associated workbook material. You have the rights to make copies of the workbook material if you wish. ISD has an *Index Guide* which can help you determine which courses are best for you. You just need to decide on a subject you want to learn about, look it up in the subject index, then see which tapes cover the subject. Different tapes sometimes cover the subject with

a different perspective and a different level of technical detail—anywhere from basic, some technical information, intermediate, high intermediate, to an advanced level of technical detail. A *Catalog of Courseware* that contains descriptions of each course is also available.

TCT Video Library Subscription Program Courses

Implementing and Expanding PC LANs (1 of 2)

1. LAN Components
2. Network Operating Systems (NOS) and Servers
3. LAN Applications

Implementing and Expanding PC LANs (2 of 2)

4. LAN Installation and Expansion
5. Network Connectivity and Wide Area Networks
6. LAN Troubleshooting and Global Network Management

Managing a Novell Network (3.X) (1 of 2)

1. Novell Concepts
2. Installing NetWare 3.11
3. Network Configurations

Managing a Novell Network (3.X) (2 of 2)

4. Daily Management
5. Troubleshooting

System Administration for NetWare 4.X (1 of 2)

1. Introduction to NetWare 4.X
2. NetWare Directory Services (NDS)
3. NetWare File Services
4. Security

System Administration for NetWare 4.X (2 of 2)

5. NetWare Print Services
6. Customizing the User Environment
Login Scripts, Menus
7. Managing the Server

LAN-WAN Internetworking (1 of 2)

1. Functions of Internetworking
2. LAN Configurations

3. Linking Devices: Repeaters, Bridges

LAN-WAN Internetworking (2 of 2)

4. Linking Devices: Routers, Gateways
5. Transmission using TCP/IP
6. Management: SNMP, OSI

SNA Today (1 of 2)

1. Components of SNA
2. Network Activation
3. Advanced SNA Architecture (APPC & APPN)

SNA Today (2 of 2)

4. Data Links and Transmission Media
5. Interoperability: TCP/IP, DEC, LANS, & OSI
6. SNA Network Management

Understanding ATM in Corporate Networks

1. Overview of ATM and the ATM Cell
2. ATM Transmission, Signaling, and Management
3. Issues in ATM Today

Understanding Addressing in a TCP/IP Network

1. Configuring IP Addresses and Subnets
2. Routing With IP Addresses
3. Diagnosing and Solving Addressing Issues

Introduction to Data Communications (1 of 2)

1. Basic Elements in Data Communication
2. Hardware and Software Components
3. Binary Numbering System and Interchange Code
4. Data Transmission Concepts and Telephone Lines

Introduction to Data Communications (2 of 2)

5. DTE-DCE Interface and RS 232-C
6. Concepts in Data Link Control
7. Start-Stop Data Link Control

T1 Digital Networks (1 of 2)

1. T1 Components

2. T1 Input and Output
3. Multiplexers

T1 Digital Networks (2 of 2)

4. T1 Testing
5. T1 Network Management Systems and Applications

Frame Relay and Wide Area Networks

1. Technical Overview of Frame Relay
2. Signaling and other Frame Relay Protocols
3. Frame Relay Implementation, Application, and ATM Issues

These videos can be checked out for one week. If you would like to check out these videos please call, ZIP!, or stop by and see Amanda Christen (444-2700, Mitchell Building Room 229 Reception area), or for more information, call Irvin Vavruska (444-6870), both from Customer Relations.

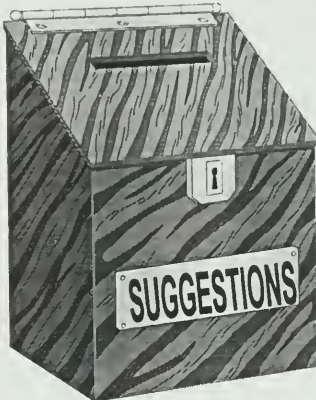




Befuddled PC Users Flood Help Lines, and No Question Seems to Be Too Basic

(The following excerpt is reprinted from the *Wall Street Journal*.)

Computers make some people paranoid. A Dell technician, Morgan Vergara, says he once calmed a man who became enraged because "his computer had told him he was bad and an invalid." Mr. Vergara patiently explained that the computer's "bad command" and "invalid" responses shouldn't be taken personally. ■



Suggestions

We are constantly searching for new ideas that could enhance *ISD News & Views*. Perhaps there are subjects you would like to see covered in future articles, or maybe you just wish to share comments on *ISD News & Views*. We would like to hear from you.

Our goal is to present a vehicle, which provides information of common interest, to all agencies within state government. Please share with us any ideas you have that will enable us to keep pace in an ever changing environment. To share your ideas, please contact the editors of *ISD News & Views*. ■

Training Calendar

This schedule has been assembled by the Helena College of Technology of the University of Montana. If you have any questions about enrollment, please call 444-6800.

All classes will be held at the Helena College of Technology, Room 210, at 1115 N. Roberts, unless another location is specified. Please note that these costs are subject to change

each July 1st.

To enroll in a class, you must send or deadhead an enrollment application to the State Training Center, HCT, Helena, MT 59601. If you have questions about enrollment, please call 444-6800. Once you enroll in a class, the full fee will be charged UNLESS you cancel at least three business days before the first day of class.

Data Network/Mainframe Classes

	<u>DATES</u>	<u>COST</u>	<u>LENGTH</u>
Introduction to Oracle	January 24, 25, 26	255.00	3
Oracle Forms	February 5, 6, 7, 8, 9, 12, 13, 14 9:00 am-12:00 noon	255.00	3
PowerBuilder	February 26, 27, 28	255.00	3

Microcomputer Classes

Introduction to Windows	December 12	85.00	1
Introduction to Windows	January 10	85.00	1
Intermediate Windows	January 11	85.00	1
Prereq. Intro to Windows			
Introduction to Windows	February 13, 14	85.00	1

Word Processing Classes

WordPerfect 6.1 Conv. Windows	December 13	85.00	1
Prereq. Intro to Windows, WordPerfect			
WordPerfect 6.1 for Windows	January 16, 17	170.00	2
Prereq. Intro to Windows			
WordPerfect 6.1 Conv. Windows	February 5, 6	85.00	1
Prereq. Intro to Windows, WordPerfect			
WordPerfect 6.1 Tables	February 7	42.50	½
Prereq. WordPerfect 6.1			
WordPerfect 6.1 Merge & Sort	February 8	42.50	½
Prereq. WordPerfect 6.1			
WordPerfect 6.1 Macros	February 12	42.50	½
Prereq. WordPerfect 6.1			

Spreadsheet Classes

Lotus for Windows Conversion	December 14	85.00	1
Lotus Macros for Windows	January 23	85.00	1
Lotus for Windows	February 20, 21	170.00	2

Prerequisites may be met with consent of Instructor.

The Helena College of Technology makes reasonable accommodations for any known disability that may interfere with a person's ability to participate in training. Persons needing an accommodation must notify the College no later than two weeks before the date of training to allow adequate time to make needed arrangements. To make your request known, call 444-6800.

ISD Class Enrollment Application

COMPLETE THIS APPLICATION IN FULL AND RETURN
IT AT LEAST ONE WEEK PRIOR TO THE FIRST DAY OF CLASS

COURSE DATA

Course Requested: _____

Date Offered: _____

STUDENT DATA

Name: _____

Soc. Sec. Number (for P/P/P): _____

Agency & Division: _____ / _____

Mailing Address: _____

Phone: _____

How have you met the required prerequisites for this course? Explain, giving the class(es) taken, tutorial(s) completed, and/or experience.

BILLING INFORMATION/AUTHORIZATION MANDATORY

User ID: _____ Agency #: _____

Authorized Signature: _____

**FULL CLASS FEE WILL BE BILLED TO THE REGISTRANT UNLESS
CANCELLATION IS MADE THREE BUSINESS DAYS BEFORE
THE START DATE OF THE CLASS.**

**DEADHEAD COMPLETED FORM TO:
COMPUTER TRAINING CENTER
HELENA COLLEGE OF TECHNOLOGY
OF THE UNIVERSITY OF MONTANA
PHONE 444-6800 FAX 444-6892**



CALLBack

Information Services Division: 406/444-2700



DEADHEADBack

via State DeadHead
Department of Administration
Information Services Division



FAXBack

Information Services Division: 406/444-2701



MAILBack

Department of Administration
Information Services Division
PO Box 200113
Mitchell Building Room 229
Helena, MT 59620-0113



SURFBack

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ZIP!Back

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Editor's Notes

Published By...

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This newsletter is dedicated to educating and informing the reader with pertinent ISD news. Materials may be reproduced without permission. Alternative accessible formats of this document will be provided upon request.

Editorial Submissions...

If you would like to submit an article to *ISD News & Views* for publication, please send it to Curt Secker or Irv Vavruska, preferably via ZIP!Mail. Please have your article in by the 15th of the month for inclusion in the following month's newsletter.

ISD Customer Support Center...

Got a problem (opportunity)? Do you need ISD assistance for any of your information processing requirements? Then contact the ISD Customer Support Center (444-2000), which is our central point of contact.

Subscription Services...

ISD News & Views is a free publication. If your name or address is incorrect, please send your current mailing label along with any corrections to Curt Secker or Irv Vavruska. If you would like to be added to our mailing list, let us know your name, title, agency, division/bureau, phone, address, city, state, zipcode, and whether you would like your newsletter to be distributed via ISD Box #, Deadhead, or Mail. *ISD News & Views* is also available electronically via ZIP!Mail/ZIP!Office or VAX e-mail. Current and back issues are located on the State of Montana Electronic Bulletin Board System (444-5648 local & out-of-state, or 800/962-1729 toll free in Montana) and on ISD's World Wide Web Server (<http://www.mt.gov>).

Distribution Notes...

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Department of Administration
Information Services Division
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